CLAIMS:

1. Peptides, characterized in that their amino acid sequence corresponds to parts of the amino acid sequence of insulin-like growth factor binding protein, and cyclic, glycosylated, phosphorylated, acetylated, amidated and/or sulfated derivatives thereof.

2. The peptides according to claim 1, characterized in that said peptides can be isolated from hemofiltrate.

3. The peptides according to either of claims 1 and/or 2, characterized in that said peptides have a length of from 61 to 115 amino acids.

4. The peptides according to any of claims 1 to 3, characterized in that said peptides have sequences which correspond to N- or C-terminal sequences of insulin-like growth factor binding protein.

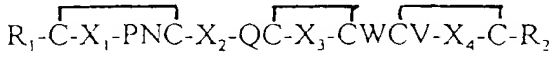
5. The peptides according to at least one of claims 1 to 4 having an amino acid sequence of formula

$$R_1\text{-}C\text{-}X_1\text{-}PNC\text{-}X_2\text{-}QC\text{-}X_3\text{-}CWCV\text{-}X_4\text{-}C\text{-}R_2$$

wherein

R_1 is NH_2, an amino acid or a peptide having an amino acid sequence comprising up to 41 amino acids, X_1 is a peptide having an amino acid sequence comprising from 24 to 31 amino acids, X_2 is a peptide having an amino acid sequence comprising 9 amino acids, X_3 is a peptide having an amino acid sequence comprising 10 amino acids, X_4 is a peptide having an amino acid sequence comprising from 18 to 24 amino acids, R_2 is COOH, $CONH_2$ or a peptide having up to 12 amino acids, and cyclic, glycosylated, phosphorylated, acetylated, amidated, sulfated derivatives and or fragments thereof having the physiological activity of IGFBP.

6. The peptides according to at least one of claims 1 to 5 having disulfide bridges of formula



7. The peptides according to at least one of claims 1 to 6, characterized in that X_2 has a glycine on position 4 of its amino acid sequence, and/or X_3 has a glycine on position 9 of its amino acid sequence, and/or X_4 has a glycine on position 4 or 5 of its amino acid sequence, and/or X_4 has a glycine on position 9 or 10 of its amino acid sequence.

8. The peptides according to at least one of claims 1 to 7, characterized in that X_1 is L or V on position 8, and/or X_1 is L or I on position 11, and/or X_2 is D or N on position 1, and/or X_2 is K or R on position 9, and/or X_3 is S or A on position 3 and/or R or A on position 8.

9. The peptides according to at least one of claims 1 to 8, characterized in that R_1 is selected from

APSEEDHSILWDAISTYDGSKALHVTNIKKWKEP,
GGKHHLGLEEPKKLRPPPARTP
GKGGKHHLGLEEPKKLRPPPARTP,
GHAKDSQRYKVDYESQSTDTQNFSSESKRETEYGP,
KVNGAPREDARPVPQGS,
LTQSKFVGGAENTAHPRIISAPEMRQESEQGP,
PQAGTARPQDVNRRDQQRNPGTSTTPSQPNSAGVQDTEMGP.

10. The peptides according to at least one of claims 1 to 9, characterized in that X_1 is selected from

RIELYRVVESLAKAQETSGEEISKFYL,
QQELDQVLERISTMRLPDERGPLEHLYSLHI,
RREMEDTLNHLKFLNVLSPRGVHI,

QSELHRALERLAASQSRTHEDLYIIPI,
RRHMEASLQELKASPRMVPRAVYL,
RRHLDSVLQQLQTEVYRGAQTLYV.

11. The peptides according to at least one of claims 1 to 10, characterized in that X_2 is selected from

NKNGFYHSR,
DKHGLYNLK,
DKKGFYKKK,
DRNGNFHPK,
DRKGFYKRK,
DHRGFYRKR.

12. The peptides according to at least one of claims 1 to 11, characterized in that X_3 is selected from

ETSMDGEAGL,
KMSLNGQRGE,
RPSKGRKRGF,
HPALDGQRGK,
KPSRGRKRGI,
RSSQGQRRGP.

13. The peptides according to at least one of claims 1 to 12, characterized in that X_4 is selected from

YPWNGKRIPGSPEIRGDPN,
NPNTGKLOQGAPTIRGDPE,
DKYGQPLPGYTTKGKEDVH,
DRKTGVKLPGGLEPKGELD,
DKYGMKLPGMEYVDGDFQ,
DRMGKSLPGSPDGNGSSS.

14. The peptides according to at least one of claims 1 to 13, characterized in that R_2 is selected from

QIYFNVQN,
HLFYNEQQEARGVHTQRMQ,
HLFYNEQQE,
YSMQSK,
HQLADSFRE,
HTFDSSNVE,
PTGSSG.

15. The peptides according to any of claims 1 to 14, characterized in that said peptides are selected from

IBP-1
APSEEDHSILWDAISTYDGSKALHVTNIKKWKEPCRIELYRVVESLAKAQETSGEEI
SKFYLPNCNKNGFYHSRQCETSMDGEAGLCWCVYPWNGKRIPGSPEIRGDPNCQI
YFNVQN

IGFBP-2
GKGGKHHLGLEEPKKLRPPPARTPCQQELDQVLERISTMRLPDERGPLEHLYSLHIP
NCDKHGLYNLKQCKMSLNGQRGECWCVNPNTGKLIQGAPTIRGDPECHLFYNEQ
QEARGVHTQRMQ

GGKHHLGLEEPKKLRPPPARTPCQQELDQVLERISTMRLPDERGPLEHLYSLHIPN
CDKHGLYNLKQCKMSLNGQRGECWCVNPNTGKLIQGAPTIRGDPECHLFYNEQQ
EARGVHTQRMQ

IGFBP-3
GHAKDSQRYKVDYESQSTDTQNFSSESKRETEYGPCRREMEDTLNHLKFLNVLSP
RGVHIPNCDKKGFYKKKQCRPSKGRKRGFCWCVDKYGQPLPGYTTKGKEDVHCY
SMQSK

KVDYESQSTDTQNFSSESKRETEYGPCRREMEDTLNHLKFLNVLSPRGVHI
PNCDKKGFYKKKQCRPSKGRKRGFCWCVDKYGQPLPGYTTKGKEDVHCYSMQSK

HPLHSKIIIIKKGHAKDSQRY

IGFBP-4

DEAIHCPPCSEEKLARCRPPVGCEELVREPGCGCCATCALGLGMPCGVYTPRCGSG
LRCYPPRGVEKPLHTLMHGQGVCMELAEIEAIQESLQPSDKDEGDHPNNSFSPCSA
HDRRCLQKHFAKIRDRSTSGGKM

KVNGAPREDARPVPQGSCQSELHRALERLAASQSRTHEDLYIIPIPNCDRNGNFHP
KQCHPALDGQRGKCWCVDRKTGVKLPGGLEPKGELDCHQLADSFRE

IGFBP-5

LTQSKFVGGAENTAHPRIISAPEMRQESEQGPCRRHMEASLQELKASPRMVPRAV
YLPNCDRKGFYKRKQCKPSRGRKRGICWCVDKYGMKLPGMEYVDGDFQCHTFDS
SNVE

KFVGGAENTAHPRIISAPEMRQESEQGPCRRHMEASLQELKASPRMVPRAVYLP
NCDRKGFYKRKQCKPSRGRKRGICWCVDKYGMKLPGMEYVDGDFQCHTFDSSN
VE

HTRISELKAEAVKKDRRKKLTQS

IGFBP-6

PQAGTARPQDVNRRDQQRNPGTSTTPSQPNSAGVQDTEMGPCRRHLDSVLQQLQ
TEVYRGAQTLYVPNCDHRGFYRKRQCRSSQGQRRGPCWCVDRMGKSLPGSPDG
NGSSSCPTGSSG.

16. A method for the preparation of the peptides according to at least one of claims 1 to 15 by purification from human hemofiltrate or urine, by solid-phase peptide synthesis, or by expression in recombinant microorganisms.

17. Complexes of peptides according to at least one of claims 1 to 15 with hIGF-I (human insulin-like growth factor I, MW 7649) or hIGF-II (human insulin-like growth factor II, MW 7491) and its biologically active fragments and/or derivatives, especially amidated, acetylated, sulfated, phosphorylated and/or glycosylated derivatives.

18. A nucleic acid, characterized by coding for peptides according to at least one of claims 1 to 15.

19. Antisense nucleotide, characterized by binding, under stringent conditions, to a nucleic acid sequence coding for a peptide according to at least one of claims 1 to 15.

20. Antibody, characterized by binding to a peptide according to at least one of claims 1 to 15.

21. Inhibitor, characterized by inhibiting the biological activity of peptides according to at least one of claims 1 to 15.

22. Inhibitor, characterized by inhibiting the expression of peptides according to at least one of claims 1 to 15.

23. Use of peptides according to at least one of claims 1 to 15, complexes according to claim 17, nucleic acids according to claim 18, for the preparation of a medicament for treating the underexpression of insulin-like growth factor binding proteins.

24. Use of antisense nucleotides according to claim 19, antibodies according to claim 20, inhibitors according to claim 21 and/or inhibitors according to claim 22 for the preparation of a medicament for treating the overexpression of insulin-like growth factor binding proteins.

25. A medicament containing the peptides according to at least one of claims 1 to 15, complexes according to claim 17, nucleic acids according to claim 18, antisense nucleotides according to claim 19, antibodies according to claim 20, inhibitors according to claim 21 and/or inhibitors according to claim 22 in a pharmaceutically acceptable dosage form for oral, intravenous, intramuscular, intracutaneous, intrathecal administration, or as an aerosol for transpulmonary administration.

26. Use of a medicament according to claim 25 for treating muscular atrophy, osteoporosis, diabetes, amyloid lateral sclerosis, peripheral and central neuropathies, inflammatory processes, disordered inflammatory reactions, tumor diseases, inflammatory and neoplastic diseases, disturbance of growth, muscular affections, affections of the bone system, and/or for wound and bone healing.

27. Use of the nucleic acid according to claim 18 and/or the antisense nucleotides according to claim 19 for the preparation of a medicament for treating somatic or non-somatic genetic diseases.

28. Diagnostic agents containing the peptides according to at least one of claims 1 to 15, complexes according to claim 17, nucleic acids according to claim 18, antisense nucleotides according to claim 19, antibodies according to claim 20, inhibitors according to claim 21 and/or inhibitors according to claim 22, and further auxiliaries.

29. Use of the diagnostic agents according to claim 28 for diagnosing functional disorders in bones, muscles, the nervous system, lymph organs, the gastrointestinal tract, the immune system, and of diabetes and inflammatory and neoplastic processes, and as a marker in cancer.